

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

---

(12) AUSTRALIAN PATENT ABSTRACT  
(19) AU

(11) AU-A-38074/85

---

(54) FISHING ROD USING COMPRESSED AIR TO LAUNCH THE SINKER  
(75) WAI MING TSANG  
(21) 38074/85 (22) 24.1.85 (24) 24.1.83  
(43) 13.6.85  
(51)<sup>4</sup> A01K 91/02 A01K 95/00  
(74) SA  
(57) Claim

1. Apparatus for casting a fishing line comprising a pressure vessel for storing compressed air, the pressure vessel comprising an inlet valve through which air under pressure may be passed into, and for storage in, the vessel and an outlet valve capable of being rapidly opened by a user to release compressed air stored in the pressure vessel, and

a launching barrel adapted to receive a sinker to which a fishing line is attached and from which the sinker may be cast by releasing compressed air from the pressure vessel by opening the outlet valve.



PATENTS ACT 1952

Form 10

# COMPLETE SPECIFICATION

(ORIGINAL)

FOR OFFICE USE

Short Title:

Int. Cl:

Application Number: 38074/85.  
Lodged:

Complete Specification—Lodged:  
Accepted:  
Lapsed:  
Published:

Priority:

Related Art:

---

TO BE COMPLETED BY APPLICANT

Name of Applicant: WAI MING TSANG

Address of Applicant: 74 Inglis Street, Sale, Victoria 3860, Australia.

Actual Inventor: As above.

Address for Service: C/O SANDERCOCK, SMITH & BEADLE, (P.O. Box 410)  
203 Riversdale Road, Hawthorn, Victoria 3122, Australia.

Complete Specification for the invention entitled: APPARATUS FOR CASTING A FISHING LINE.

The following statement is a full description of this invention, including the best method of performing it known to me:—

\* Note: The description is to be typed in double spacing, pica type face, in an area not exceeding 250 mm in depth and 160 mm in width, on tough white paper of good quality and it is to be inserted inside this form.

1       The invention relates to apparatus for casting a  
2 fishing line and to a method of casting a fishing line.

3       The present invention provides

4       apparatus for casting a fishing line comprising a  
5 pressure vessel for storing compressed air, the pressure  
6 vessel comprising an inlet valve through which air under  
7 pressure may be passed into, and for storage in, the vessel  
8 and an outlet valve capable of being rapidly opened by a  
9 user to release compressed air stored in the pressure  
10 vessel, and a launching barrel adapted to receive a sinker  
11 to which a fishing line is attached and from which the  
12 sinker may be cast by releasing compressed air from the  
13 pressure vessel by opening the outlet valve.

14       Preferably, the outlet valve is a valve capable of  
15 being opened by a rotation of not more than 90°.

16       Preferably, the valve, when open, has a cross-sectional  
17 area for the passage of compressed air of not less than 75%  
18 of the cross-sectional area of the barrel.

19       Suitable valves for use as the outlet valve include  
20 quick opening gate valves, plug cocks of substantial bore,  
21 knife gate valves and ball valves.

22       Preferably, the barrel is demountably mounted to the  
23 outlet of the outlet valve.

24       Preferably, the barrel is a two part barrel and means  
25 is provided for connecting the two parts of the barrel in  
26 end-to-end relation. Such means conveniently comprises a  
27 sleeve into which the two parts may be received.

28       Preferably, the inlet valve is an automotive tyre valve  
29 whereby the pressure vessel may be filled with compressed

1 air, if desired, from an automotive hand, foot, internal  
2 combustion cylinder or electrically operated pump.

3 Preferably, the barrel has a length of at least 3 feet  
4 and an inside diameter of at least  $\frac{1}{2}$  inch. A more preferred  
5 inside diameter is at least  $\frac{3}{4}$  inch and a more preferred  
6 length is at least 6 feet.

7 Preferably, the barrel has an internal volume at least  
8 half that of the internal volume of the pressure vessel.

9 The apparatus preferably includes prop means attached to  
10 one of the barrel and pressure vessel and adapted to prop  
11 the apparatus at an angle to the horizontal. That angle is  
12 preferably about  $30^{\circ}$  to the horizontal.

13 The apparatus may include means for attaching a fishing  
14 rod to the apparatus.

15 The apparatus may include means for anchoring an end of  
16 the apparatus remote from the barrel in sand. That means is  
17 conveniently a plate which may also serve to mount the two  
18 part barrel for storage and to mount a fishing rod.

19 The apparatus may include means for demountably  
20 mounting the barrel alongside the pressure vessel for  
21 storage purposes.

22 The apparatus may include a body secured to the  
23 pressure vessel remote to the end thereof to which the  
24 barrel is attached for casting of a fishing line and which  
25 is adapted to mount the barrel alongside the pressure vessel  
26 for storage purposes and to mount a fishing rod to the  
27 apparatus.

28 A sinker for use with the apparatus is preferably of  
29 metal having resilient seal means at opposite ends.

1        Preferably, the means for attaching a fishing rod to  
2        the apparatus comprises a member which is movable along the  
3        barrel so that the fishing rod may be located in selected  
4        one of a store position in which it lies substantially  
5        alongside the barrel and an in use position in which it  
6        extends beyond the barrel.

7        In one instance means is provided on one or other of  
8        the pressure vessel and the barrel for mounting a fishing  
9        line reel.

10       The apparatus may include a fishing rod having an end  
11       adapted to be received in the end of the barrel.

12       The present invention also provides method of casting a  
13       fishing line comprising using apparatus in accordance with  
14       this invention.

15       The present invention will now be exemplified by  
16       reference to the accompanying drawings in which:-

17       Fig. 1 is a side elevational view of a first apparatus  
18       for casting a fishing line in accordance with this invention  
19       in a condition for use,

20       Fig. 2 is a side elevational view of a second apparatus  
21       for casting a fishing line in accordance with this  
22       invention,

23       Fig. 3 is a cross-sectional view on line I-I in Fig 1,

24       Fig. 4 is a cross-sectional view on line II-II in Figs.  
25       1 and 2,

26       Fig. 5 is a cross-sectional view on line III-III in  
27       Fig. 1,

28       Fig. 6 is a cross-sectional view on line IV-IV in Fig.  
29       2,

1        Fig. 7 is a side elevational view of a first sinker,

2        Fig. 8 is a side elevation of a third apparatus for  
3 casting a fishing line in accordance with this invention,  
4 and

5        Fig. 9 is a cross-sectional view of a second sinker.

6        In Figs. 1, 2 and 8, like reference numerals denote  
7 like parts.

8        The first apparatus of Fig. 1 comprises a pressure  
9 vessel 1 which is a metal tube of about 1.25 inch inside  
10 diameter fitted with an inlet valve 2, a safety valve 3 and  
11 a ball valve 4.

12        The inlet valve 2 shown in Fig. 4 is a conventional  
13 automotive tubeless tyre valve and because of that a large  
14 number of commercially available and inexpensive pumps will  
15 be available for compressing air and filling the vessel 1  
16 when the valve 4 is closed.

17        Such pumps include hand, foot, internal combustion  
18 cylinder, electric and battery operated pumps. Indeed, while  
19 it might be possible to provide the apparatus of this  
20 invention with a large, sophisticated and expensive pump,  
21 the circumstances at which the apparatus of this invention  
22 will be used, usually on a beach or foreshore but perhaps on  
23 a river or lake and more than likely remote from any power  
24 source other than can be provided by the muscular force of a  
25 user, suggest that a small, transportable, easily used and  
26 cheap pump is most appropriate.

27        Thus the ability to use a pump primarily intended for  
28 pumping up automobile tyres is considered to be an important  
29 practical feature of the present invention.

1        Such pumps are usually capable of pumping to 150 psig  
2 but for reasons of safety and economy in manufacture of the  
3 vessel 1, it is preferred that the safety valve 3 be such as  
4 to release pressure from the vessel when in excess of 120  
5 psig.

6        The safety valve 3 may take any convenient form but  
7 preferably comprises a rupturable disc.

8        The valve 4 is a ball valve which can be opened by  
9 turning its associated actuating lever through 90°. Thus the  
10 valve 4 is quick acting and when open will present a  
11 substantial through passage which will not substantially  
12 restrict passage of compressed air.

13       The end of the valve 4 remote from the vessel 1 is  
14 provided with a female thread and a barrel 5, comprised of  
15 first part 5a and second part 5b is provided with a male  
16 threaded fitting 6 for attaching the barrel 5 to the valve  
17 4. The parts 5a and 5b are joined end to end by a sleeve 7  
18 which can clamp the adjacent ends.

19       A prop 18 is pivotally mounted to the vessel 1 and can  
20 be used to prop the apparatus at about 30° to the horizontal  
21 which has been found to be the optimum angle for casting a  
22 fishing line.

23       A body 16 is fitted on the vessel 1 and comprises clips  
24 17, a rest 26 and carry slings 19.

25       A plate 15 is fitted to the end of the vessel 1 and has  
26 recesses 22 which, with the clips 17, can be used to store  
27 the barrel parts 5a and 5b alongside the vessel 1 when the  
28 apparatus is to be packed for storage or carrying.

29       The plate 15 also has a recess 23 which, with rest 26,



1 can be used to support a fishing rod.

2 The plate 15 can be partly buried in sand.

3 The sinker 14 shown in Fig. 7 is of lead or other heavy  
4 metal and has shoulders 24 for sealing with the barrel and a  
5 hole 25 for attachment of a fishing line.

6 To use the first apparatus it is set up as shown in  
7 Fig. 1, a fishing line is attached to the hole 25 in the  
8 sinker 14, the sinker 14 is placed in the barrel 5 with the  
9 pointed end inward and the pressure vessel 1 is pumped up to  
10 a desired pressure.

11 The valve 4 is then opened by a 90° turn and the sinker  
12 and fishing line will be caused to be cast.

13 The second apparatus shown in Fig. 2 differs from the  
14 first apparatus of Fig. 1 in that the barrel 5 is only a  
15 single part, the barrel 5 has a reinforcing ferrule 12, a  
16 body 10 is mounted to the barrel and supports a fishing rod  
17 21 having guides 11 and 20 for a fishing line, it has a reel  
18 13 and reel mounting means 8, a grip 9 and in that the plate  
19 15, body 16 and prop 18 are omitted.

20 If desired, the body 10 may be slidable along the  
21 length of the barrel.

22 The third apparatus shown in Fig. 8 is similar to that  
23 of Fig. 2 excepting that the reel mounting means 8 is  
24 mounted to the vessel 1, fishing line guides 110, 113 and  
25 114 are provided on the barrel 5 and on the fishing rod 21  
26 and the body 10 is replaced by a body 111 fixed to the end  
27 of the barrel 5. In this instance the rod 21 can be removed  
28 from the body 111 and inserted into the end of the barrel 5.

29 The sinker 50 shown in Fig. 9 is similar to sinker 14

1 but has moulded grooves 51 which receive resilient rings 52.

2 Apparatus in accordance with this invention is simply  
3 and cheaply made and has been used to cast a fishing line in  
4 excess of 220 yards.

5 The claims form part of the disclosure of this  
6 specification.

7 Modifications and adaptations may be made to the above  
8 described without departing from the spirit and scope of  
9 this invention which includes every novel feature and  
10 combination of features disclosed herein.

1 The claims defining the invention are as follows:

2 1. Apparatus for casting a fishing line comprising a  
3 pressure vessel for storing compressed air, the pressure  
4 vessel comprising an inlet valve through which air under  
5 pressure may be passed into, and for storage in, the vessel  
6 and an outlet valve capable of being rapidly opened by a  
7 user to release compressed air stored in the pressure  
8 vessel, and

9 a launching barrel adapted to receive a sinker to which  
10 a fishing line is attached and from which the sinker may be  
11 cast by releasing compressed air from the pressure vessel by  
12 opening the outlet valve.

13 2. Apparatus as claimed in claim 1, wherein the outlet  
14 valve is a ball valve capable of being opened by a rotation  
15 of not more than 90°.

16 3. Apparatus as claimed in claim 2, wherein the ball  
17 valve, when open, has a cross-sectional area for the passage  
18 of compressed air of not less than 75% of the cross-  
19 sectional area of the barrel.

20 4. Apparatus as claimed in claim 1, wherein the barrel is  
21 demountably mounted to the outlet of the outlet valve.

22 5. Apparatus as claimed in claim 4, wherein the barrel is  
23 a two part barrel and means is provided for connecting the  
24 two parts of the barrel in end-to-end relation.

25 6. Apparatus as claimed in claim 1, wherein the inlet  
26 valve is an automotive tyre valve whereby the pressure  
27 vessel may be filled with compressed air, if desired, from  
28 an automotive hand, foot, internal combustion cylinder or  
29 electrically operated pump.

1 7. Apparatus as claimed in claim 1, wherein the barrel has  
2 a length of at least 3 feet and an inside diameter of at  
3 least  $\frac{1}{2}$  inch.

4 8. Apparatus as claimed in claim 1, wherein the barrel has  
5 an internal volume at least half that of the internal volume  
6 of the pressure vessel.

7 9. Apparatus as claimed in claim 1, and including prop  
8 means attached to one of the barrel and pressure vessel and  
9 adapted to prop the apparatus at an angle to the horizontal.

10 10. Apparatus as claimed in claim 1, and including means  
11 for attaching a fishing rod to the apparatus.

12 11. Apparatus as claimed in claim 1, and including means  
13 for anchoring an end of the apparatus remote from the barrel  
14 in sand.

15 12. Apparatus as claimed in claim 4, including means for  
16 demountably mounting the barrel alongside the pressure  
17 vessel for storage purposes.

18 13. Apparatus as claimed in claim 2, including a body  
19 secured to the pressure vessel remote to the end thereof to  
20 which the barrel is attached for casting of a fishing line  
21 and which is adapted to mount the barrel alongside the  
22 pressure vessel for storage purposes and to mount a fishing  
23 rod to the apparatus.

24 14. Apparatus as claimed in claim 1, and including a sinker  
25 of metal having resilient seal means at opposite ends.

26 15. Apparatus as claimed in claim 10, wherein the means for  
27 attaching a fishing rod to the apparatus comprises a member  
28 which is movable along the barrel so that the fishing rod  
29 may be located in selected one of a store position in which

1 it lies substantially alongside the barrel and an in use  
2 position in which it extends beyond the barrel.

3 16. Apparatus as claimed in claim 10 wherein means is  
4 provided on one or other of the pressure vessel and the  
5 barrel for mounting a fishing line reel.

6 17. Apparatus as claimed in claim 10, and including a  
7 fishing rod having an end adapted to be received in the end  
8 of the barrel.

9 18. A method of casting a fishing line comprising using the  
10 apparatus of any preceding claim.

11 19. Apparatus for or a method of casting a fishing line  
12 substantially as hereinbefore described with reference to  
13 any one of the accompanying drawings.

14 20. The articles, things, parts, elements, steps, features,  
15 methods, processes, compounds and compositions referred to  
16 or indicated in the specification and/or claims of the  
17 application individually or collectively, and any and all  
18 combinations of any two or more of such.

19

20

21 DATED THIS 24th DAY OF January, 1985.

22 SANDERCOCK, SMITH & BEADLE

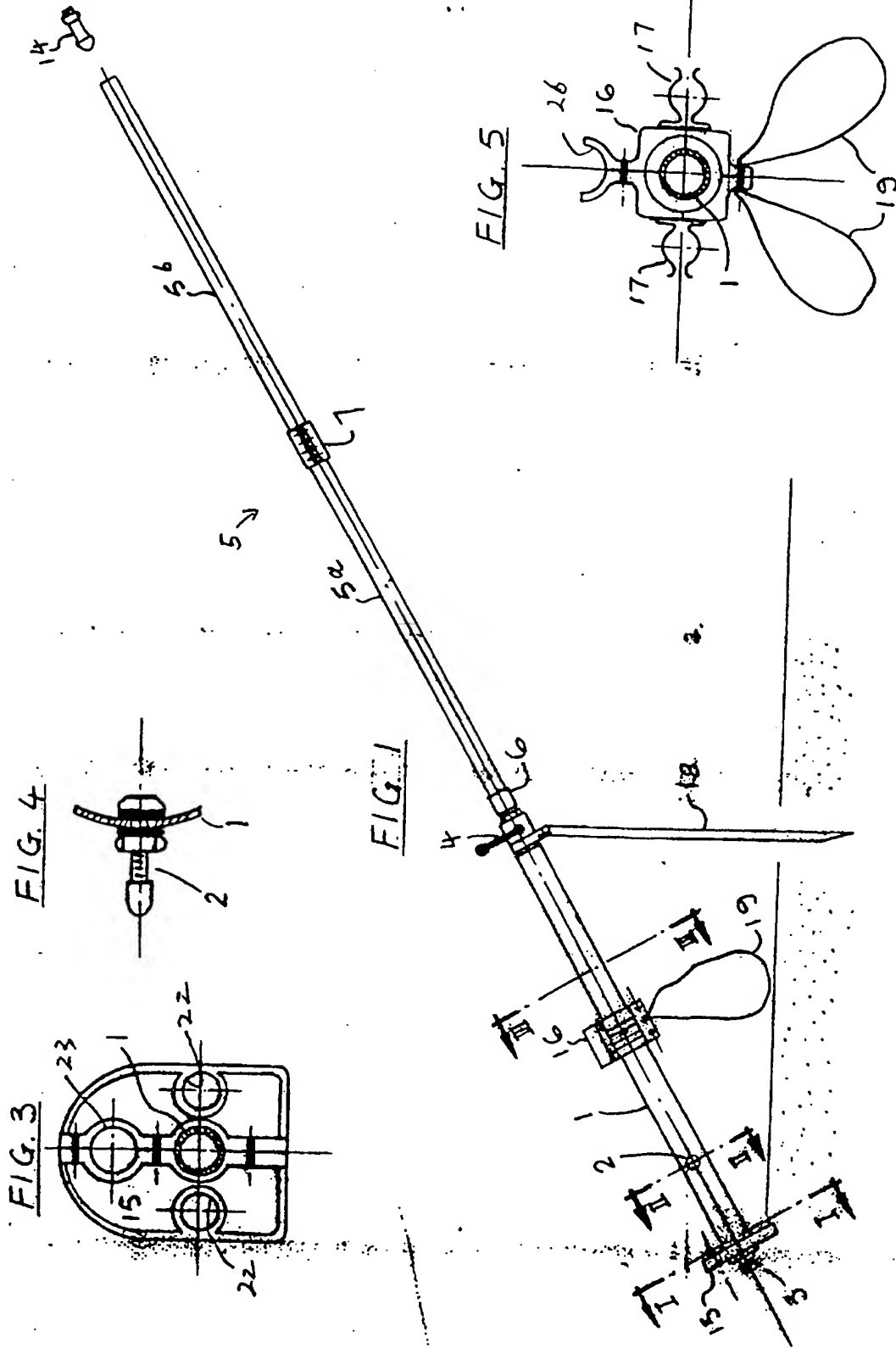
23 Fellows Institute of Patent

24 Attorneys of Australia.

25 Patent Attorneys for the Applicant

26 WAI MING TSANG

38 074/85

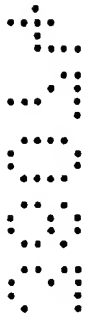


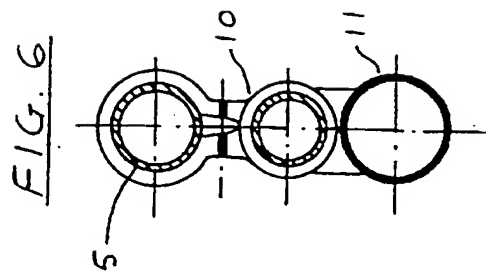
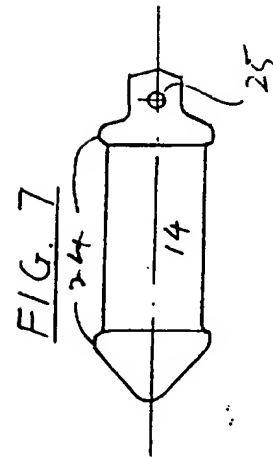
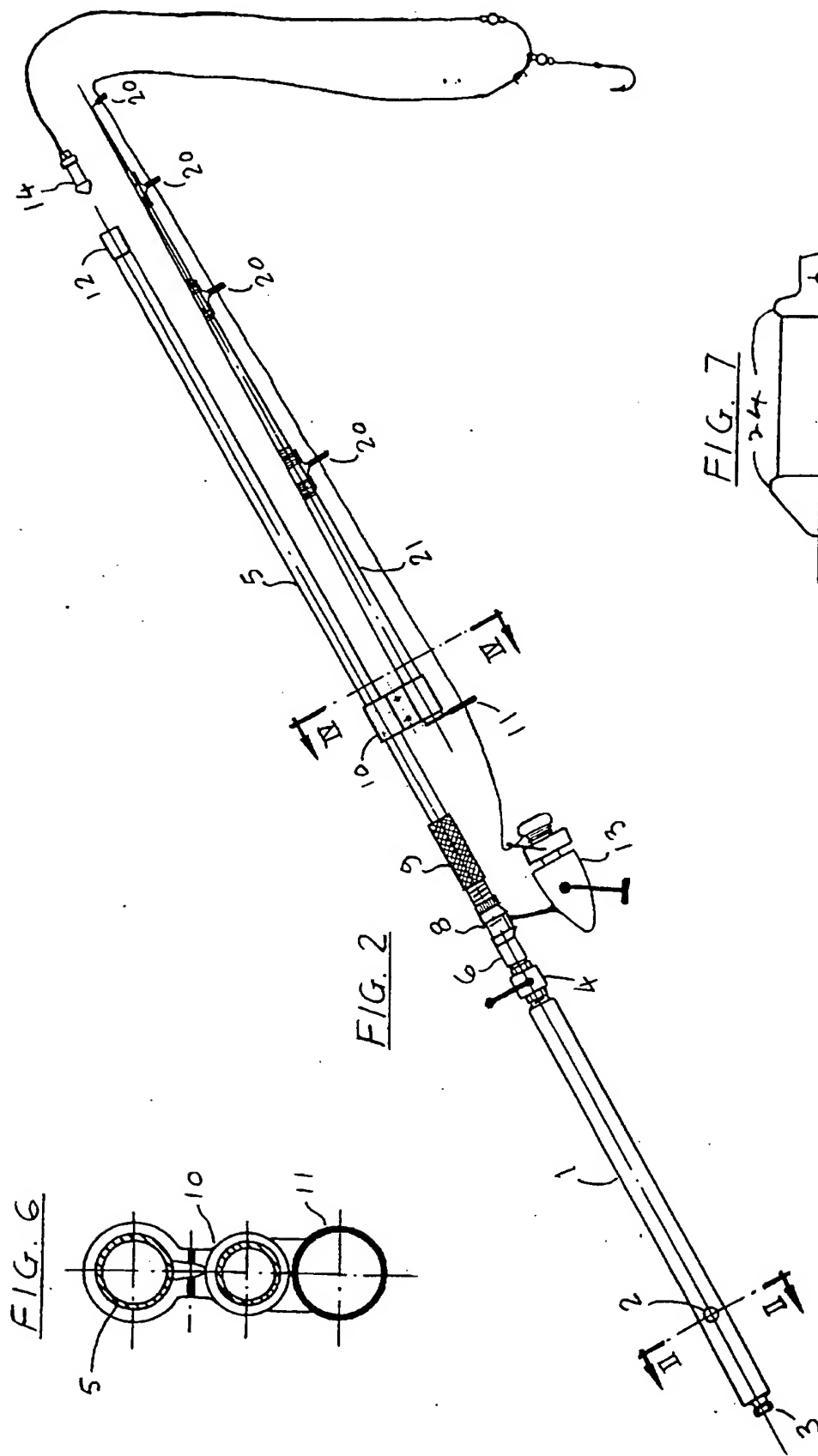
ORIGINAL

WAI MING TSANG

3 sheets

sheet 1





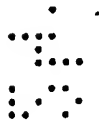
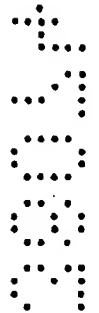


ORIGINAL

WAI MING TSANG

3 sheets

sheet 2



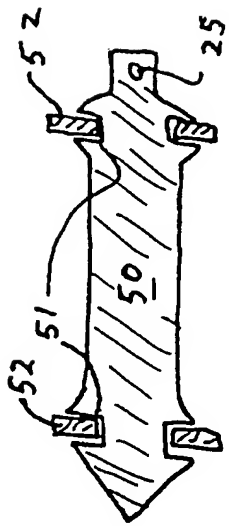


Fig. 9

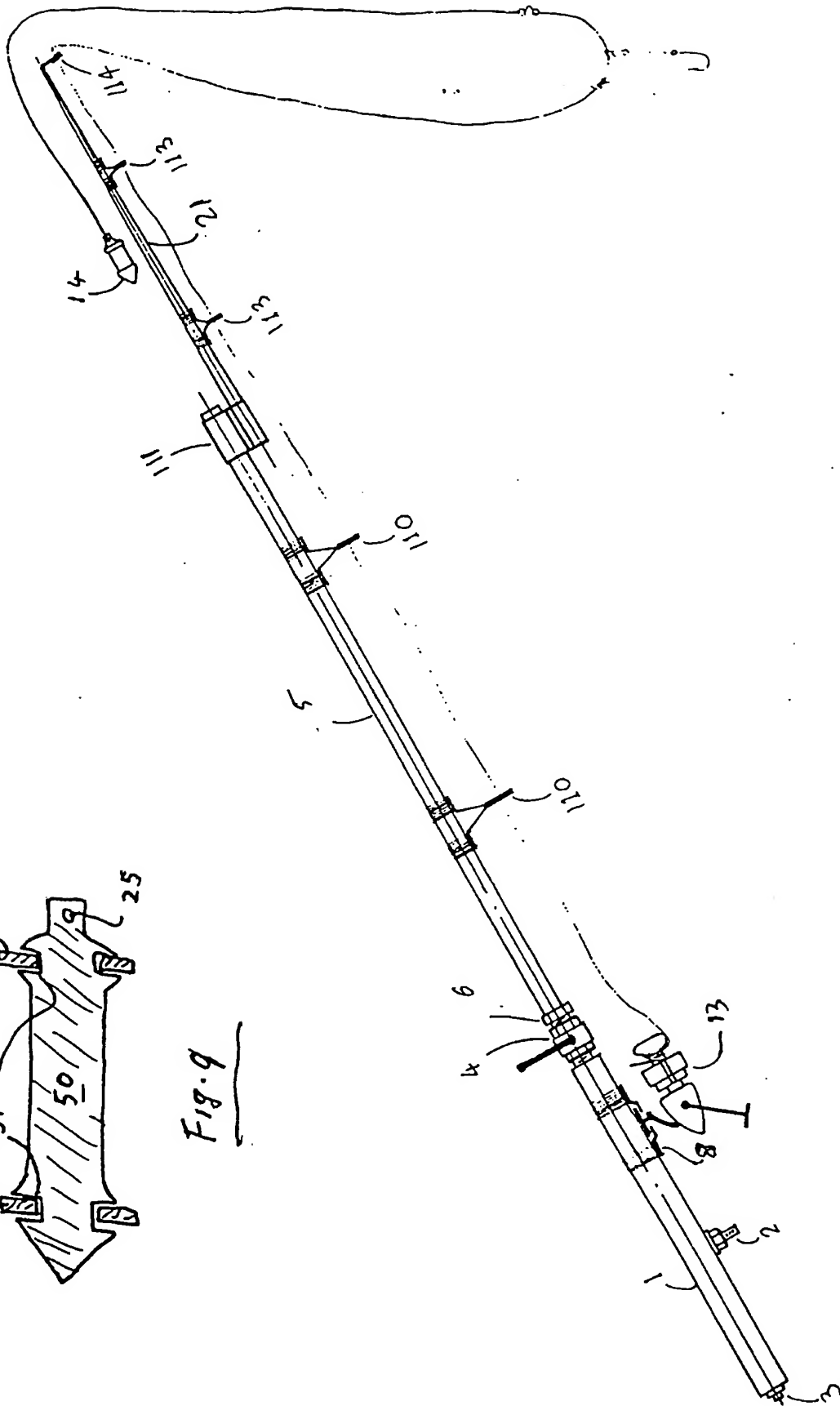


FIG. 8

ORIGINAL

WAI MING TSANG

3 sheets

sheet 3

